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ABSTRACT

To examine risk for Acquired Immune Deficiency Syndrome (AIDS) in terms of risk-related behaviors, and to investigate the factors that may be involved in putting one at risk, a study conducted telephone interviews with 493 randomly selected adults (18 years or older) in Austin, Texas in the fall of 1987. Respondents answered approximately 40 questions. An index of risk (defined as the extent to which an individual reported behaviors that put him or her at risk of getting AIDS) was formed from responses to five questions concerning sexual behavior, blood transfusions, and intravenous drug use over the past seven years. Other measures consisted of: "risky" attitudes toward AIDS; knowledge of AIDS; and exposure to each of three major daily news media (newspapers, and local and national television news programs). Results revealed that a majority of the variance in risk for AIDS was predicted by demographics and lifestyles, issue salience, knowledge of AIDS, and attitudes toward gambling with one's health. Significantly influencing risk for AIDS were the salience of the AIDS issue, newspaper use, and a gambling attitude. (Four tables of data and 33 references are appended.) (MM)

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GAMBLING WITH YOUR HEALTH:

PREDICTORS OF RISK FOR AIDS

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Abstract

GAMBLING WITH YOUR HEALTH:

PREDICTORS OF RISK FOR AIDS

A model of risk for AIDS was proposed. Data for this study came from a random sample of adults living in the Austin, Texas, area in the fall of 1987. A majority of the variance in risk for AIDS was predicted by demographics and lifestyles, news media use, issue salience, knowledge of AIDS and attitudes toward gambling with one's health. Significantly influencing risk for AIDS were the salience of the AIDS issue, newspaper use, and a gambling attitude.

GAMBLING WITH YOUR HEALTH:
PREDICTORS OF RISK FOR AIDS

Acquired Immune Deficiency Syndrome (AIDS) is a fatal debilitating disease without cure. If that is not motivation enough to practice risk-aversion behaviors, what is?

In their comprehensive review of AIDS surveys up to November 1986, Singer, Rogers and Corcoran (1987) found that many data have been collected regarding awareness of the existence of the disease, knowledge about transmission, salience, and attitudes about treatment of victims. Data, however, are scarce in one central area of concern--risk behaviors. Because of this, few concerted attempts have been made to show how AIDS-related knowledge, attitudes, or behaviors are connected. Attempts that have been made suffer from weak conceptual and operational definitions of "risk for AIDS."

Risk for AIDS. In their review of existing studies, Singer and her colleagues identified "those who are realistically at risk" in terms of a few broad demographic and lifestyle conditions: "Young people--those under thirty, single people, those living in urban areas in which a high number of cases has been identified, and blacks."

Risk for AIDS often is defined in demographics and lifestyle terms, but often the terms are less inclusive than those employed by Singer and her colleagues. Usually definitions restrict risk to such groups as homosexuals, intravenous drug users, blood

recipients, and prostitutes (Smith, 1987). Such definitions are based on the fact that AIDS is transmitted when the human immunodeficiency virus (HIV) passes from one person's blood system to another's (Kaplan, Johnson, Bailey, and Simon, 1987). The groups listed above have been labeled as "high risk" because members of these groups are more likely to engage in behaviors that facilitate transmission of the virus. Such a definition is especially useful for some purposes, such as defining target audiences for information campaigns. For our purposes, however, risk is better defined in terms not only of membership in high risk groups but also in terms of specific risk-aversion behavior. In February 1988, a spokesman for the federal Centers for Disease Control in Atlanta made this assessment about who is at risk for contracting AIDS (Stanley, 1988):

> We've always expected the numbers of heterosexual contact cases to increase. And, in fact, they're still increasing. But the proportion has remained at about 4 percent since July 1986, so it's not exploding into the heterosexual population and, at this point, it seems unlikely that it will if people take the recommended precautions. But, certainly, anyone who is sexually active with multiple partners should use condoms.

That points us to a clearer definition of risk for AIDS, based not so much on membership in demographic or lifestyle groups as on the practice of risk-aversion behaviors. In this paper, we attempt to advance our knowledge of the problem of AIDS by conceptualizing risk for AIDS in these more specific terms and by examining a relatively large number of factors which we suspect may be involved in putting one at risk.

Why Risk AIDS? One compelling reason why some people may

risk contracting AIDS is lack of knowledge. The less one is aware of how the disease is transmitted and of disease prevention tactics, the less one is likely to take precautions.

Much is already known about constraints on knowledge in general, and on health knowledge in particular. Among the major factors constraining knowledge are social class (education and income) and age (Lane, 1959; Nimmo and Ungs, 1967; Bogart, 1981). These factors also may affect one's knowledge of AIDS. Health risk in particular is associated with lack of education (Morgan, 1967; Salcedo, 1971) and youthfulness (Meltsner, 1978; Van Liere and Dunlap, 1980).

Other demographic and lifestyle variables that may affect risk for AIDS are ideology, ethnicity, children in the household, and gender. Political conservatism has often been associated with restraint (Hawkes, Pikisuk, Stiles, and Acredolo, 1984). Those identifying themselves as politically conservative demonstrate less tolerance of nonconformists (McCutcheon, 1985), including homosexuals and drug users, the two most commonly perceived "high risk" groups for AIDS. Given the nature of the issue at hand, we expect conservatism to be associated with lower risk for AIDS.

Minorities make up a disproportionately large percentage of AIDS cases. This is probably due mainly to social class differences (Hegsted, 1984), but it may also be linked to other factors, such as certain sex practice preferences that put one at risk for AIDS (Smith, 1987). Those living in households that

include school-age children may be less at risk for AIDS because the issue may be more salient to such individuals: one of the major "AIDS stories" told repeatedly by the mass media is "kids with AIDS." Whether children with AIDS should be allowed to attend school has become one of the major issues related to AIDS. Salience, we suspect, may lead to greater information seeking which may in turn lead to increased knowledge.

Gender may be a factor in risk, as well. The spread of AIDS among male homosexuals is well known; until recently, this alone suggested that risk for AIDS would be higher among males. However, as the disease becomes more prevalent among heterosexuals, this may change radically. Because the blood vessels of the rectum are more numerous and fragile than those of the vagina, anal intercourse is the easiest but not the only sexual route for transmission of the virus. The complexity of the risk equation in regard to demographic and lifestyle variables is conveyed by Smith (1987):

> [F]or heterosexual American men, the risk of getting AIDS from sexual intercourse is less than the risk of being struck by lightning. For women, unfortunately, the risk is much greater. A small but apparently growing proportion of AIDS victims in the U.S. is made up of women who apparently got the disease through heterosexual intercourse, which includes anal and oral as well as vaginal sex. Most of them, far out of proportion to their share of the population, are young black and Hispanic women who have sex with drug users.

While risk for AIDS may eventually become more closely identified with women, we do not believe that is currently the case. In addition, when faced with risk situations, women are

known to express greater risk avoidance than men (Otway, 1975; Hawkes, Pilisuk, Stiles, and Acredolo, 1984). Therefore, we expect males in our study to report being at greater risk.

Surveys consistently have shown that most people get most of their information about AIDS from the news media (Singer, Rogers, Corcoran, 1987). Research also has demonstrated that individuals' news media use and attitudes toward the media are affected by personal economic conditions, cognitive skills, and position in the lifecycle, the three concepts discussed just above (Graber, 1984). Additionally, news media use may increase the salience of new issues, which may affect, in turn, attitudes, behaviors, and future news media use (Weaver, Graber, McCombs, and Eyal, 1981).

Yet, even if one is not externally constrained by such factors as money, literacy, or maturity, even if one is knowledgeable of the AIDS problem and, in particular, is aware of its seriousness and transmission modes, and even if AIDS is a salient issue, one still may not practice risk-aversion measures. That is to say, even if someone is aware of the seriousness of the disease, knows how to prevent personal exposure to the virus, and has the ability to avert risk, s/he still may not do so. Given the seriousness of the disease, one might rightfully ask, "How can this be?" To put it more baldly than it almost ever is put, the argument more often than not comes down to this: "S/he's got a bad attitude."

Attitude. In 1935, Allport said, "The concept of attitude

is probably the most distinctive and indispensable concept in contemporary American social psychology." Commenting on that statement four decades later, Kelman (1974) said, "attitudes have, if anything, become even more central in social psychology."

One of the concept's great strengths is its elasticity. As Allport (1935) said, "the term is elastic enough to apply either to the dispositions of single, isolated individuals or to broad patterns of culture." This great strength, however, is also its great weakness. As Kelman (1974) said:

> In many studies, attitudes have not only been largely irrelevant to the purposes of the research, but have also been assessed or interpreted in ways that ignore the traditional meaning of the concept and the elaborations it has undergone.... [R]esearch has relied excessively on attitudes, to the neglect of other aspects of the social behavior of individuals and of the functioning of social systems. Attitudes have been treated as the magical key to the study of social behavior and system functioning. As a result, they have been burdened with descriptive and predictive powers that they do not possess and have been used inappropriately and simplemindedly.

As McGuire (1985) said, "Attitude researchers have been generous to a fault in clarifying attitudes by definition and distinctions." In their review, Ajzen and Fishbein (1972) found 500 definitions. To our knowledge, every definition views an attitude as an evaluation that always may be put in the form of an attraction to or repulsion from. Craig (1981), for example, said, "Attitude is viewed as a state of readiness to respond, on a positive-negative, approach-avoid dimension, to a particular class of objects."

Most definitions additionally maintain that an attitude is relatively stable. Representative definitions include: "Attitude is primarily a way of being 'set' toward or against certain things" (Murphy, Murphy, and Newcomb, 1937). "An enduring, learned predisposition to behave in a consistent way toward a given class of objects" (English and English, 1958); "An enduring system of positive or negative evaluations, emotional feelings and pro or con action tendencies with respect to a social object" (Krech, Crutchfield, and Ballachey, 1962).

The idea that people evaluate objects and that these evaluations form relatively stable (over-time) patterns does not seem far-fetched. Nor does it seem far-fetched to expect the abstract evaluations of objects to be reflected in behavior, as well, with movement toward objects that are being evaluated positively and movement away from objects that are being evaluated negatively. Craig (1980) was to the point: "The theoretical definition of attitudes requires that attitudes be associated with behaviors."

That attitudes and behaviors are consistent was for many years simply assumed. While isolated evidence against apparent attitude-behavior consistency has existed for a long time (e.g., LaPiere, 1934), it was not until the 1960s that the assumption of attitude-behavior consistency was severely scrutinized and challenged. Not only was the causal ordering of these variables questioned, but they often were found to be unrelated (Festinger, 1964; Wicker, 1969; Siebold, 1975). The resulting "attitude-

behavior consistency problem" became one of the greatest controversies in the history of social science (Liska 1975).

More recently, Grunig and Hunt (1984) suggested that we may have "solved" the consistency problem by redefining what we mean by attitude; rather than thinking of an attitude as a grand, overarching and unchanging predisposition ("I am anti-business"), an attitude may be thought of as a specific and situational evaluation, and possibly one among many regarding the same object ("It's terrible how Corporation X pollutes the environment for a profit;" "It's nice how Corporation X supports the Special Olympics").

Certainly, by making attitudes specific and situational and by connecting them to specific behaviors in specific situations, we increase the likelihood of consistency between attitudes and behaviors. On the other hand, the more specific and situational our concepts, the less general utility they possess. What is the "correct" level of abstraction? We prefer to think of an attitude as an enduring evaluation of an object/event that remains stable across a few, if not many, situations. This cross-situational consistency increases an attitude's predictive and explanatory power. At the same time, an attitude is not so grand and unyielding an evaluation that context is irrelevant. Context is almost always important in social-psychological processes and to deny that seems sure folly. A balance needs to be struck between too-tight specificity and too-loose generality. The goal is to identify and study attitudes that exhibit clear

theoretical connections to important behaviors and that at the same time are of some general interest beyond the specific situation at hand.

With that in mind, we have attempted to define AIDS-related attitudes in terms that are specific enough to warrant close connections between them and important AIDS-related behaviors, and yet that are general enough to be of interest beyond the narrow scope of this study. Ultimately, we expect these attitudes to be related to risk-related behaviors.

We suspect that "risky attitudes," the type of attitudes that will be consistent with "risky behaviors," may involve a willingness or compulsion to take chances. That, after all, is what risk is essentially about. A risky attitude may be viewed as an individual's readiness to gamble. We suspect that to some extent a gambling attitude may represent a displacement of responsibility for one's actions to some force outside oneself, such as science ("I'm willing to bet that a cure is just around the corner") or fate ("When my number comes up, it comes up"), which allows the individual to denigrate the importance of his or her own actions. Holders of risky attitudes are in a state of readiness to accept the danger of AIDS. In this attitude, the "object" being evaluated is not AIDS itself (few people "like" AIDS or want to get it) but the <u>danger</u> of AIDS. Some people are not repulsed by these dangers; they are willing to take their chances. This riskiness is viewed here as being (within an individual) relatively stable across time and situations.

In terms of disease prevention, risky attitudes are "bad attitudes." At least, that's our hypothesis. For reasons discussed above, we suspect that risk for AIDS is predicted by social class, maturity, ethnicity, ideology, gender, news media use, salience, knowledge--and a gambling attitude.

All of these factors may be assembled into a model of AIDS-related variables, variables that are connected to risk for AIDS:

MODEL OF RISK FOR AIDS

DEMOGRAPHICS & LIFESTYLES	--> MEDIA USE	--> SALIENCE OF ISSUE	--> KNOWLEDGE OF AIDS	--> GAMBLING ATTITUDE	--> RISK BEHAVIOR

The arrows linking these variables suggest a causal line but we expect that some of these connections are not as unilateral or strong as our model seems to imply. We would not be surprised to find, for example, that AIDS-related behaviors influence attitudes, or that knowledge influences salience. We offer this model as a device for organizing the problem; we may find that it does not reflect reality very well.

An appropriate test of the risk model is a multivariate one in which the hypothesized predictors are analyzed for their independent contribution to risk, while simultaneously taking into account the predictive power they share with the other variables. Therefore, a hierarchical regression analysis will be performed in which variables will be entered in blocks in the

order of their positions in the hypothesized model: demographic and lifestyle variables first, followed by new media use, salience, knowledge, and attitude variables.

We expect a significant increase in the variance in risk accounted for by each block as it enters the regression equation. A block is given credit only for the variance it accounts for independent of the variance for which blocks in the equation already have received credit. Because the "risky attitudes" block enters the equation last, this is a conservative test of what we consider our most intriguing hypothesis, that a gambling attitude is a significant predictor of risk for AIDS.

Methods

Population and Sample. Adults living in the Austin, Texas, area were interviewed by telephone. They consisted of those 18 years or older and reachable by local telephone from central Austin. Telephone numbers were selected using a two-stage random digit dialing probability sampling design suggested by Waksberg (1978). Interviews were conducted over a two-week period beginning October 19, 1987, and were conducted at the University of Texas College of Communication's Office of Survey Research, a computer-assisted telephone interviewing facility. Interviewers received about five hours of training and worked two shifts of three hours each. They were monitored and received feedback on their performance.

At least five attempts were made to complete an interview at

each eligible telephone number, except during the last two days of interviewing when these rules were relaxed somewhat. The response rate was computed as .71. The final sample size of usable interviews was 493.

Interviewers identified themselves by name and said they were "from the University of Texas at Austin." Respondents were told that this was "a study of Austin residents regarding their knowledge of and attitudes toward the disease AIDS." Each respondent was asked slightly more than 40 questions, the exact number depending on responses to filter questions. Interviews averaged 15 minutes in length.

A comparison of our sample and the population from which it is taken indicates a good fit. Across all key variables for which we had data to compare--education, age, gender, income, and ethnicity--our sample resembled quite well the population it is meant to represent (see Table 1).

Operationalizations. Each of the variables and indices used in this study, and how we operationalized it, is described below.

Risk. Risk represents the extent to which an individual reports behaviors that put him or her at risk of getting AIDS. It was operationalized by considering the answer to the following five questions:

1. "Getting AIDS has been associated with having a blood transfusion, using intravenous drugs, being a homosexual, or failing to use a condom when you are not sexually monogamous. Thinking about these behaviors, how likely are you to get AIDS? Are you very likely, likely, unlikely, or very unlikely?"

"2. In the past seven years, have you had a blood transfusion?"

3. "In the past seven years, have you used intravenous drugs by injecting them with a needle?"

4. "In the past seven years, have you had any sexual partners who may have injected themselves with intravenous drugs?"

5. "In the past seven years, have you had sex with someone of the same gender as you?"

Using these five items, an index of risk was formed. Those who said that over the past seven years (going back to when AIDS was first identified) they had not received blood, not had a homosexual experience, did not take drugs intravenously and did not have sex with an intravenous drug user were given a score of zero for each of these negative responses. Those who said they did not know if they had engaged in any of these four behaviors were given a score of one for each such response. Those who said they had engaged in any of these behaviors received a score of 2 for each one. (The question dealing with sex with a drug user included "maybe" as a response option; we considered this as a "risky" response and gave it a score of 2.)

In addition to the responses to these four items, we considered responses to the first question listed above. Those who said they were unlikely or very unlikely to get AIDS received a score of 0. Those who said they did not know received a score of 1. Those who said they were likely or very likely were given a score of 2. (This valuation scheme essentially standardized the scores, that is, it put all the items on this risk index on the same scale.) Risk therefore could range from a low of 0 to a high of 10 (although we do not expect anyone to be at "perfect"

risk). The reliability of this index (Chronbach's alpha) was .22 (N=468), which is low, even for a behavioral index. Part of the problem, we believe, is that most of the items that make up this index each contribute uniquely to risk for AIDS, without necessarily being inter-correlated with the other items. In other words, both blood reception and homosexuality contribute to risk but there is no reason to expect these two behaviors to be highly correlated.

Risky Attitudes. Risky attitudes were measured by considering responses (strongly agree, agree, neutral, disagree, strongly disagree) to the following three Likert-type items:

1. "Whether I get AIDS depends more on fate than on my own behavior."

2. "I am confident that there will be a cure for AIDS within the next five years."

3. "Life is too short to worry about changing my sexual practices because of AIDS."

Because in the bivariate analyses we wanted to examine correlations of these items separately, we did not treat them as an index; however, in the multivariate analysis, they entered the equation as a block (which is essentially the same procedure we followed with the demographic and lifestyle variables and the news media use variables). If we had combined these items into an index, its reliability (Chronbach's alpha) would have been .47 (N=448).

Issue Salience. Issue salience was measured by considering the answer to a single Likert-type item:

"AIDS is an extremely serious problem for the American people."

Knowledge. Knowledge of AIDS was measured by considering answers to the following five true/false questions, based on information taken from the U.S. Surgeon General's 1986 report on AIDS:

1. "People can be infected with the AIDS virus without suffering from any of the disease's symptoms." (True.)

2. "No AIDS cases have been proven to be caused by contact with an infected person's saliva." (True.)

3. "AIDS cannot be transmitted sexually from a woman to a man." (False.)

4. "Some AIDS cases have been proven to be caused by mosquitos." (False.)

5. "Some AIDS cases have been proved to be caused by the cough or sneeze of an infected person." (False.)

An additive index was formed by summing the number of correct responses; knowledge scores therefore could range from 0 to 5. We expected the items that make up this index to be strongly correlated (unlike the items contributing to one's overall risk for AIDS). The items in the knowledge index are not independent of each other; four deal directly with knowledge of AIDS transmission modes, while the fifth item, which asks about whether virus carriers must show symptoms, deals indirectly with transmission. Therefore, we expected relatively high correlations among these items. That was not the case, however. The reliability of the index (Chronbach's alpha) was .45, quite low for a knowledge index. This may partly be due to the fact that we used all true/false items: if one did not know the

answer, one still had a 50 percent chance of guessing correctly. Even so, given that we had taken considerable pains to devise what we thought would be a good index of knowledge, we were disappointed with its relatively low reliability. When we turn to the results of the study, we will have more to say about this.

Media Use. Exposure to each of the three major daily news media was measured by considering the answers to each of the following three questions:

1. "About how many days a week do you read a daily newspaper?"

2. "About how many days a week do you watch a local television news program?"

3. "About how many days a week do you watch a national television news program?"

As we noted above, these items were analyzed separately before being entered as a block in the multivariate equation. Had we combined them into an index, its reliability (Chronbach's alpha) would have been .57 (N=492).

Statistics describing each of the variables used in this study are reported in Table 2.

Results

As we expected, the large majority (74 percent) of respondents reported themselves to be at little risk for AIDS. Of course, given the subject matter of the questions designed to assess risk, some underreporting of risk is likely. Twenty-five percent (119 respondents) had risk scores between 2 and 4, which represents considerable risk. The highest risk score was 6, reported by only 1 percent of the sample. This score, however,

represents great risk: in order to achieve such a score, the respondent must have engaged in at least two of the four major risk behaviors we examined.

Risk was found to be correlated with being male, having less education, being liberal, and perceiving AIDS as a salient issue (see Table 3). Gender, education, ideology and salience were associated, in turn, with other variables. Among the variables used in this study, the greatest zero-order correlation (.60) was for exposure to local TV news and exposure to national TV news. Next highest (.39) was the correlation of two of the gambling attitude variables (that life is short and that fate is ruling). The third highest correlation (-.32) was between the fate variable and education. (The other two gambling attitude variables also were related to education but to a lesser extent).

These bivariate correlations address only the question of how any two variables are related, without taking into account the effects of other variables. To examine the unique influence of variables and sets of variable while taking into account the influence of all other variables, we move to a multivariate analysis. The examination of the bivariate correlations do contribute to this analysis because they tell us that no two variables are so highly correlated to warrant the elimination of a variable from the multivariate analysis because of its redundancy (collinearity).

This lack of redundancy among variables is one assumption of the multivariate technique we employed here, hierarchical

regression analysis. Other assumptions of this technique were examined, as well. Analyses of the residuals uncovered no serious violations of the assumptions of the general linear model on which this technique is based.

The multivariate analysis of our model suggests that a person's risk of getting AIDS is indeed predicted by most of the variables for which we hypothesized such a relationship. As Table 4 shows, our model accounted for a majority of the variance in risk. We were surprised, however, by some results. The large contribution made by salience to the prediction of risk--it explains 17.9 percent of the variance in risk--is remarkable. Despite its crude measurement, the one-item indicator of salience accounted for more of the variance in risk than any other variable or block of variables. Recalling that variables entered into the equation later are given no credit for the variance they share with variables entered earlier, this strong showing surprised us.

Considerable evidence has been accumulating for a so-called agenda-setting effect of the news media. According to this evidence, news media use affects the salience of issues (see, for example, Weaver, Graber, McCombs, and Eyal, 1981). Our attention therefore is drawn naturally to the question of the role of the news media in peoples' perceptions of AIDS risk. As Table 4 shows, news media use accounted for 7 percent of the variance in risk for AIDS; while this was not quite statistically significant we consider it meaningful on a number of counts. First of all,

measurement here also was crude, with a one-item exposure question indicating use of each of the three news media studied. More precise measurement of news media use, with perhaps more attention to content-related information-seeking behavior, should enlighten us further on this relationship. Secondly, it should be remembered that this analysis incorporates prior controls for an impressive number of personal and social factors that limit the credit news media use is given as a predictor of risk. Thirdly, by combining the three news media variables into an additive index, this analysis effectively obscures the unique contribution of any one of the three news media studied. Much research has suggested that the newspaper may be more important as an agenda-setter than is television. An analysis of the standardized regression coefficients appears to support this argument (see Column 1, Table 4). The beta weight for newspaper use is second only to salience, while that of national TV use is 15th, the lowest of the lot, and local TV use ranks 10th. This indicates that newspaper use contributes considerably more to the explanation of risk than does TV news use, especially national TV use. These findings are especially striking given the large number of controls for demographic and lifestyle variables: they suggest that the daily newspaper has been doing a better job of getting across to the public the message of AIDS risk than have the broadcast media, especially national TV news. Studies of AIDS-related content differences across the media should shed additional light on this finding.

We were just as surprised at the failure of knowledge to contribute much to the understanding of risk. After taking into account demographic and lifestyle variation, as well as variation due to news media use and salience, we find that knowledge of AIDS does not contribute much to the prediction of risk. Part of the problem may be the relatively low reliability of the knowledge index, discussed above. This is a question that deserves further consideration.

Our major hypothesis, that a gambling attitude would contribute significantly to the prediction of risk, was borne out. Forced to enter the equation last, the block of "risky attitudes" still accounted for nearly 13 percent of the variance in risk for AIDS. Of the three risky attitudes studied here, the strongest predictor was the cure-is-near attitude.

Discussion

In this study we attempted to offer a realistic definition of risk for AIDS and to show that risk depends to a considerable extent on one's attitude toward gambling. We are encouraged by the results but clearly much needs to be done. A central question is the nature of the causal relationship between a gambling attitude and risk for AIDS. It is quite feasible that being at risk for AIDS may in part lead to a gambling attitude, rather than just the reverse. Future studies would do well to focus on this question.

This study does show that risk for AIDS is a complicated equation involving a large number of personal and social variables. It is important to recognize and accept the complexity of the problem. Although our equation accounted for a majority of the variance in risk for AIDS, there is much that is left unexplained.

In part, this gap is due to measurement of the dependent variable. Relying as we do on self-reports of risky behavior, we almost certainly introduce error to our measurement due to misreporting. AIDS risk behaviors are mostly sexual- and drug-related practices that are difficult to observe; self-reports will continue to be the basis for much of our information about AIDS risk behaviors. Nevertheless, we may alleviate the problem considerably by conceptually and operationally defining risk as precisely as our resources allow.

There is a serious danger, we think, in conceiving risk in

indirect terms; this is probably the greatest weakness in existing research. By identifying those at risk in terms of age, marital status, urban-rural living, and ethnicity, Singer et al. (1987) were led to what we consider a misleading conclusion. These researchers concluded that AIDS studies consistently indicate that "those who are realistically at greater risk are also most likely to express concern about AIDS, and to say they have changed their behavior, including sexual behavior, in order to avoid exposure to AIDS." While such a finding would appear to be both reasonable and reassuring, we believe it is wrong. The findings presented here, based on a more realistic definition of risk, suggest that those at risk are indeed more likely to express concern about AIDS but they have not changed their behavior in order to avoid exposure to AIDS, in good part because they hold attitudes that encourage them to take chances.

If we hope to reach those at risk, we need to go beyond broad demographic and lifestyle groups, we need to go beyond so-called "high risk" groups, and we need to locate those who are not practicing risk-aversion behaviors. The findings presented here suggest the sobering thought that once we locate these individuals one of the major tasks at hand will be to attempt to change their attitude about gambling with their health.

Table 1
Comparison of Sample and Population

	SAMPLE	POPULATION
EDUCATION		
NOT H.S. GRAD	10%	10%
H.S. GRADUATE	20%	25%
SOME COLLEGE	34%	34%
COLLEGE GRAD	24%	19%
GRADUATE WORK	11%	12%
INCOME		
10K OR LESS	15%	7%
10-19K	25%	16%
20-49K	43%	59%
50K OR MORE	17%	18%
GENDER		
MALE	45%	49%
FEMALE	55%	51%
AGE		
18-24	21%	22%
25-34	29%	30%
35-44	18%	16%
45-54	19%	12%
55-64	6%	9%
65 OR MORE	7%	11%
ETHNICITY		
WHITE	79%	76%
HISPANIC	8%	13%
BLACK	11%	8%
OTHER	2%	3%

NOTE: Entries are percentages. Austin metropolitan population data are taken from the 1988 Austin Market Report, conducted by Scarborough Research Corp. of New York City for the Austin American-Statesman and reported in that newspaper in a special section entitled "Forecast Austin," pp. H1-H68, February 28, 1988. The population data reported here are from page H1 of that section.

Table 2
Descriptive Statistics of Variables in AIDS Risk Model

VARIABLE	MEAN	S.D.	MEDIAN	RANGE	MIN	MAX	N
EDUCATION	4.0	1.2	4	5	1	6	492
AGE	36.6	14.6	32.5	66	18	84	490
INCOME	4.0	2.0	4	6	1	7	458
CONSERVATISM	3.0	0.9	3	4	1	5	463
NEWSPAPER USE	4.7	2.5	5	7	0	7	493
LOCAL TV USE	5.0	2.3	6	7	0	7	493
NAT'L TV USE	4.4	2.3	5	7	0	7	492
SALIENCE	4.5	0.7	5	4	1	5	491
KNOWLEDGE	3.7	1.2	4	5	0	5	493
ATTITUDE: CURE IS NEAR	2.9	1.0	3	4	1	5	467
ATTITUDE: LIFE IS SHORT	2.1	1.1	2	4	1	5	475
ATTITUDE: FATE IS RULER	2.1	1.1	2	4	1	5	488
RISK	0.7	1.2	0	6	0	6	468

NOMINAL VARIABLES:

ETHNICITY	ANGLOS = 388	NONANGLOS = 105	N = 493
GENDER	MALES = 221	FEMALES = 272	N = 493
HOUSEHOLD CHILDREN	YES = 144	NO = 349	N = 493

Table 3
Zero-order Correlations

	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1.	-01	17	11	-11	30	03	12	-17	01	-01	26	-11	-15	-32	-08
EDUCATION	489	492	492	492	457	462	492	492	491	490	492	466	474	487	467
		***	**	**	***		**	***			***	**	***	***	*
2.		07	-10	00	18	09	22	27	29	06	-08	01	12	17	-04
AGE		490	490	490	457	460	490	490	489	488	490	464	473	485	465
			*		***	*	***	***	***		*		**	***	
3.			-03	-12	17	15	00	01	10	12	16	-11	-12	-19	01
ETHNICITY			493	493	458	463	493	493	492	491	493	467	475	488	468
				**	***	**			*	**	***	**	**	***	
4.				-17	02	06	10	-01	03	-15	04	-08	05	03	15
GENDER				493	458	463	493	493	492	491	493	467	475	488	468
				***			*			**		*			**
5.					17	-03	-06	01	-04	-02	01	-02	05	-04	-02
HOUSEHOLD CHILDREN					458	463	493	493	492	491	493	467	475	488	468
					***										
6.						15	07	-04	-02	10	10	-05	-07	-16	-06
INCOME						435	458	458	458	456	458	436	442	455	436
						**				*	*		*	***	
7.							-02	07	-05	-06	-07	-08	-01	02	-12
CONSERVATISM							463	463	463	462	463	441	448	458	443
															**
8.								11	23	-04	05	-06	03	-01	-04
NEWSPAPER USE								493	492	491	493	467	475	488	468
								**	***						
9.									60	-04	00	00	13	09	00
LOCAL TV USE									492	491	493	467	475	488	468
									***				**	*	
10.										-01	11	-04	-02	-03	00
NATIONAL TV USE										490	492	467	474	487	467
											**				
11.											09	04	-12	-08	09
SALIENCE											491	465	473	486	467
											*		**	*	*
12.												-08	-11	-26	-02
KNOWLEDGE												467	475	488	468
												*	**	***	
13.													13	14	06
CURE IS NEAR													452	462	443
													**	**	
14.														39	06
LIFE IS SHORT														471	451
														***	
15.															07
FATE IS RULING															464
16.															
RISK															

NOTE: Entries are Pearson product-moment coefficients. To save space, decimal points were omitted. Below each correlation is the number of cases and significance. For the three dummy-coded variables, "high" values equal Anglo, male, and children at home.

*** = p < .01; ** = p < .01; * = p < .05

Table 4
Model of Risk for AIDS (Hierarchical Regression Analysis)

	BETA WEIGHT	INCREMENT TO R^2	TOTAL VARIANCE ACCOUNTED FOR (R^2)
DEMOGRAPHICS/LIFESTYLES		11.5%	11.5%
Conservatism	-.09		
Income	-.31		
Gender	.01		
Ethnicity	.16		
Age	-.23		
Household Children	-.13		
Education	-.08		
NEWS MEDIA USE		7.0%	18.5%
Newspaper	.36**		
National TV	.01		
Local TV	.10		
SALIENCE	.57***	17.9%**	36.3%
KNOWLEDGE	.24	3.3%	39.7%
GAMBLING ATTITUDE		12.8%*	52.4%
Cure-is-near	.31*		
Fate-is-ruler	.19		
Life-is-short	.03		

NOTE: Column 1 entries are the standardized regression coefficients of each variable in the model. The statistical significance of these betas was measured by two-tailed t tests. Column 2 entries are the percentages of variance accounted for by each block of variables as it entered the equation. Within each block, variables are listed in the order in which they entered the equation, with the more statistically significant variables entering first. Column 3 entries are the total cumulative percentages of variance accounted for as each block entered the equation. For the three dummy-coded nominal variables, "high" values stand for males, Anglos, and children at home. N = 382.

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

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